

In the United States Patent & Trademark Office

In re New Patent Application of:
Rose, K. *et al.*

Serial No.: To Be Assigned

Filed: Herewith

For: **Polyoxime Compounds and Their
Preparation**

Examiner: To Be Assigned

Art Unit: To Be Assigned

Atty. Dkt.: 3504.244-CON
GRFN 001/05-US

Information Disclosure Statement Pursuant to 37 C.F.R. § 1.97(b)(1)

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98. Copies of the cited documents can be found in the files of U.S. Patent Application Serial Nos. 08/537,928, or 09/633,269, from which the present application claims priority.

The Examiner is requested to contact the undersigned in the event that any of the cited documents cannot be located, so that replacement copies can be expeditiously provided.

This Information Disclosure Statement is being submitted prior to an Initial Office Action. No fee is accordingly believed due for consideration of this Information Disclosure Statement. However, if the Commissioner determines that an additional fee is required in for consideration of this Information Disclosure Statement, the U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any

overpayment, to Deposit Account No. 50-0548 referencing docket number 3504.244-CON.

The submission of the listed documents is not intended as an admission that any such document constitutes prior art against the claims of the present application. Applicants do not waive any right to take any action that would be appropriate to antedate or otherwise remove any listed document as a competent reference against the claims of the present application.

The listed documents are:

U.S. Patents

AA1	4,444,744	Goldenberg
AB1	4,507,466	Tomalia et al.
AC1	4,622,420	Meares et al.
AD1	4,652,440	Paik et al
AE1	4,659,839	Nicolotti
AA2	4,678,667	Meares et al.
AB2	4,707,352	Stavrianopoulos
AC2	4,857,599	Tomalia et al.
AD2	4,861,581	Epstein et al.
AE2	4,865,835	Begent
AA3	4,918,164	Hellstrom
AB3	5,011,676	Thakur
AC3	5,084,266	McKenzie
AD3	5,087,616	Myers
AE3	6,001,364	Rose et al.
AA4	6,174,530	Rose et al.
AB4	6,217,873	Rose et al.

Foreign Patent Documents

AL1	EP 131 361
AM1	EP 243 929
AN1	EP 498 771
AL2	EP 525 992
AM2	WO 85/05638
AN2	WO 88/03414
AL3	WO 90/02135
AM3	WO 91/13097
AN3	WO 92/05802
AL4	WO 94/25071

Other Documents

- AR1 Altmann, K.H. & Mutter, M., "A General Strategy for the De Novo Design of Proteins-Template Assembled Synthetic Proteins", *Int. J. Biochem.*, Vol. 22:947-956 (1990)
- AS1 Antoni et al., "A Short Synthetic Peptide Fragment of Human Interleukin 1 With Immunostimulatory but not Inflammatory Activity", *J. Immunol.*, Vol. 137:3201-3204 (1986)
- AT1 Argos, P., "An Investigation of Oligopeptides Linking Domains in Protein Tertiary Structures and Possible Candidates for General Gene Fusion" *J Mol. Biol.*, Vol. 211: 943-958. (1990)
- AR2 Bagutti, et al., "Histochemistry of Receptors", *Prog. Histochem. Cytochem.*, Vol. 26:110-118 (1992)
- AS2 Biancalana et al., "Tactics and Strategies in Solid Phase Peptide Synthesis: New Directions, Methods and Applications", *Innovation and Perspectives in Solid Phase Synthesis*, R. Epton (ed.) Intercept Limited, pp. 135-152 (1992)
- AT2 Brinkley, M., "A Brief Survey of Methods for Preparing Protein Conjugates With Dyes, Haptens, and Cross-Linking Reagents", *Biocong. Chem.*, Vol. 3:2-13 (1992)
- AR3 Brocklehurst and Little, "Reactivities of the Various Protonic States in the Reactions of Papain and of L-Cysteine with 2,2'- and with 4,4'- Dipyridyl Disulphide: Evidence for Nucleophilic Reactivity in the Un- ionized Thiol Group of the Cysteine-25 Residue of Papain Occasioned by its Interaction with the Histidine-159-Asparagine-175 Hydrogen-Bonded System", *Biochem. J.*, Vol. 128:471-474 (1972)
- AS3 Brown, et al., "Conservation of Determinants for Class II-Restricted T Cells Within Site E of Influenza Virus Hemagglutinin and Factors Influencing Their Expression", *J. Virol.*, Vol. 67:2287-2893
- AT3 Canne, L.E., et al. "Total Chemical Synthesis of Unique Transcription'. Factor-Related Protein: cMyc-Max", *J. Am. Chem. Soc.*, Vol. 117:2998-3007 (1995)
- AR4 Capon, et al., "Designing CD4 Immunoadhesins for AIDS Therapy", *Nature*, Vol. 337:525-530 (1989)
- AS4 Carlsson, J. et al., "Protein Thiolation and Reversible Protein-Protein Conjugation", *Biochem. J.*, Vol. 173:723-737 (1978)
- AT4 Chait, B.T. " Weighing Naked Proteins: Practical High-Accuracy Mass Merasurements of Peptides and Proteins," *Science* Vol. 257: 1885-1894 (1992)
- AR5 Crothers, D.M. et al., "The Influence of Polyvalency on the Binding Properties of Antibodies," *Immunochem.* 9:341-357 (1972)

- AS5 Dawson, P.E. and Kent, S.B.H., "Convenient Total Synthesis of a 4-Helix TSP Molecule by Chemoselective Ligation", J. Amer. Chem. Soc., Vol. 115:7263-7266 (1993)
- AT5 Defoort et al. "Complete Synthetic Vaccine With Built-in Adjuvant", Peptides 1991, J.E. Rivier (ed.) ESCOM Leiden, New York, pp. 845-846 (1992)
- AR6 Defoort et al., "A Rational Design of Synthetic Peptide Vaccine With a Built-in Adjuvant", Chem. Abs., Vol. 118:231792f (1993)
- AS6 Drijfhout, J.W., and Bloemhoff, W., "A New Synthetic Functionalized Antigen Carrier", Int. J. Peptide Protein Res., Vol. 37:27-32 (1991)
- AT6 Ernest et al., "Synthesis of A 4-Helix Bundle-Like Template-Assembled Synthetic Protein (TASP) by Condensation of a Protected Peptide on a Conformationally Constrained Cyclic Carrier", Tetrahedron Letters, Vol. 31(28) :4015-4018 (1990)
- AR7 Fisch et al., "Site-specific Modification of Antibodies by Enzyme-assisted Reverse Proteolysis", Peptides 1990. E. Giralt & D. Andreu (eds .) ESCOM Science Publishers B.V. The Netherlands, pp. 819-821 (1991)
- AS7 Floegel et al., "Molecular Dynamics Conformational Search of six Cyclic Peptides Used in the Template Assembled Synthetic Protein Approach for Protein De Novo Design", Biopolymers, Vol. 32:1283-1310 (1992)
- AT7 Gaertner, H.F., et al., "Construction of Protein Analogues by Site-Specific Condensation of Unprotected Fragments", Vol. 3:262-268 (1992)
- AR8 Geoghegan, K.F., and Stroh., J .G., "Site-Directed Conjugation of Nonpeptide Groups to Peptides and Proteins via periodate Oxidation of a 2-Amino Alcohol. Application to Modification at N-Terminal Serine", Bioconjugate Chem., , Vol. 3:138-146 (1992)
- AS8 Geysen, H.M., and Mason, T.J., "Screening Chemically Synthesized Peptide Libraries for Biologically-Relevant Molecules", Bioorganic & Med. Chem. Lett., Vol. 3:397-404 (1993)
- AT8 Hahn, K.W. et al. "Design and Synthesis of a Peptide Having Chymotrypsin-Like Esterase Activity?" Science 248:1544-1547 (1990)
- AR9 Hermanson, G.T. "Bioconjugate Techniques," Academic Press, Inc., San Diego, CA pp. 147-148 (1995)
- AS9 Hobbs et al., "Identification of a Lymphocyte-Activating Pentapeptide Sequence in the Fc Region of Human. IgG11" , J. Immunol., Vol. 138:2581-2586 (1987)
- AT9 Houghten, R.A. et al., "The Use Of Synthetic Peptide Combinatorial Libraries For The Determination Of Peptide Ligands In Radio-Receptor Assays: Opioid Peptides," Bioorgan. Med. Chem. Lett. Vol. 3:405-412 (1993)

- AR10 Houghton et al., "Development of new Antimicrobial Agents Using a Synthetic Peptide Combinatorial Library Involving More Than 34 Million Hexamers", *Innovation and Perspectives in Solid Phase Synthesis*. R. Epton (ed.) Intercept Limited. Andover, pp. 237-239 (1992)
- AS10 Houghton et al., "Generation and use of Synthetic Peptide Combinatorial Libraries for Basic Research and Drug Discovery", *Nature*, Vol. 354:84-86 (1991)
- AT10 Jackson, D.C. & Brown, L.E., "A synthetic Peptide of Influenza Virus Hemagglutinin as a Model Antigen and Immunogen", *Peptide Research*, Vol. 4:114-124 (1991)
- AR11 Jung et al., "Modern Methods in Multiple Peptide Synthesis and Multiple Peptide Analysis", *Solid Phase Synthesis* R. Epton (ed.) Intercept. Andover. UK, pp. 227-235 (1992)
- AS11 Kaumaya et al, "Template Vaccine Strategy Bypasses Haplotype-Restricted Immune Responses", Peptides, C.H. Schneider & A.N. Eberle (eds.) ESCOM Science Publishers B.V., Columbus. OH, pp. 139-141 (1993)
- AT11 King et al. "Preparation of Protein Conjugates via Intermolecular Hydrazone Linkage", *Biochemistry*, Vol. 25:5774-5779 (1986)
- AR12 Kneko et al., "New Hydrazone Derivatives of Adriamycin and Their Immunoconjugates-a Correlation Between Acid Stability and Cytotoxicity", *Biocong. Chem.*, Vol. 2:133-141 (1991)
- AS12 Kurth et al., "Site-Specific Conjugation of a Radioiodinated Phenethylamine Derivative to a Monoclonal Antibody Results in Increased Radioactivity Localization in Tumor", *J. Med. Chem.*, Vol. 36:1255-1261 (1993)
- AT12 Marsden and Subak-Sharpe, "Preparation of Branched Peptides in Assays for Antibodies", *Chem. Abs.*, Vol. 118:234487w (1993)
- AR13 Matsumoto, H. et al., "Optimum Cross-linking Spacer Length of Dimeric Neurokinin B Analogs for Interaction with NK-1 tachykinin Receptors," *Bull. Chem. Soc. Jpn.* Vol. 66:196-204 (1993)
- AS13 Moore, J.S., "Carborod Molecular Scaffolding", *Nature*, Vol. 361:118-119 (1993)
- AT13 Mueller, et. al., "Antibody Conjugates with Morpholinodoxorubicin and Acid-Cleavable Linkers", *Bioconjugate Chem.*, Vol. 1:325-330 (1990)
- AR14 Murphy, A.M. et al., "Automated Synthesis of Peptide C-Terminal Aldehydes", *J. Amer. Chem. Soc.*, Vol. 114:3156-3157 (1992)
- AS14 Mutter et al., "Redesigning Peptide Structures: Side-Chain Assemblage on Topological Templates", *Peptides 1992*, C.H. Schneider & A.N. Eberle (eds.) ESCOM Science Publishers B.V., The Netherlands, pp.87-88 (1993)

- AT14 Mutter et al., "The Construction of New Proteins: V.A. Template-Assembled Synthetic Protein (TASP) Containing Both a 4-Helix Bundle and -Barrel-like Structure", *Proteins: Structure. Function & Genetics*, Vol.5:13-21 (1989)
- AR15 Nencioni et al., "In Vivo Immunostimulating Activity of the 163-171 Peptide of Human IL-1", *J. Immunol.*, Vol. 139:800-804 (1987)
- AS15 Nyanguile, et al., "Synthesis of Antiparallel 4a-helix Bundle TASP by Chemoselective Ligation, *Letters in Peptide Science*, Vol. 1:9-16 (1994)
- AT15 Offord, R. E. "Chemical Approaches to Protein Engineering", *Protein Eng.: A Practical Approach*. Rees, A.R. et al. eds., Oxford Press, pp. 235-251 - (1992)
- AR16 Offord, R. E. et al., "Press-Stud Protein Conjugates," In: "Proteins of the Biological Fluids, Peters, H. (ed.) pp. 35-38 (1986)
- AS16 Offord, R. E., "Chemical Approaches to Protein Engineering", *Protein Design and the Dev. of New Therapeutics and Vaccines*, J.B. Hoof & G. Poste (eds.), The British Library, Plenum, New York, pp.253-282 (1990)
- AT16 Offord, R.E. et al., "Press-Stud Protein Conjugates," In: "Peptides 1986," pp. 279-281 (1987)
- AR17 Pochon et al., "A Novel Derivative of the Chelon Desferriozamine for Site- Specific Conjugation to Antibodies", *Int. J. Cancer*, Vol. 43:1188-1194 (1989)
- AS17 Posnett et al., "A Novel Method for Producing Anti-Peptide Antibodies: production of Site-Specific Antibodies to the T. Cell Antigen Receptor - Chain", *The Journal of Biological Chem.*, Vol. 263(4) :1719-1725 (1988)
- AT17 Rana et al., "Synthesis of A Metal-Ligating Amino Acid Suitable for Solid Phase Assembly of Peptides", *Tetrahedron Lett.*, Vol. 33:4521-4524 (1992)
- AR18 Reines, S.A. and Cantor, C.R., "New Fluorescent Hydrazide Reagents for the Oxidized 3' -terminus of RNA", *Nucleic Acids Res.*, Vol. 1:767-786 (1984)
- AS18 Roberts, et al., "Using Starburst Dendrimers as Linker Molecules to Radiolabel Antibodies", *Bioconjugate Chem.*, Vol. 1(S) :305-308 (1990)
- AT18 Robey, F.A. and Fields, R.L., "Automated Synthesis of N'Bromoacetyl- Modified Peptides for the Preparation of Synthetic Peptide Polymers, Peptide-Protein Conjugates, and Cyclic Peptides", *Analytical Biochemistry*, Vol. 177:373-377 (1989)
- AR19 Rose et al., "Attachment of Linker Groups to Carboxyl Termini Using Enzyme-Assisted Reverse Proteolysis", *Peptides 1988*. G. Jung & E. Bayer (eds .) Walter de Gruyter. Berlin-New York, pp.274-276 (1989)

- AS19 Rose et al., "Site-Specific Modification of Natural and Biosynthetic Polypeptides by Reverse Proteolysis", *Innovation and Perspectives in Solid Phase Synthesis*. R. Epton (ed.) Intercept., Andover, pp. 129-134 (1992)
- AT19 Rose "Facile Synthesis of Artificial Proteins", *J. Amer. Chem. Soc.*, Vol. 116:30-33 (1994)
- AR20 Rose, K. et al., "A Synthetic Peptide-Based Polyoxime Vaccine Construct Of High Purity And Activity," *Molec. Immunol.* Vol. 32:1031-1037 (1995)
- AS20 Rose, K. et al., "Enzyme-Assisted Semisynthesis of Polypeptide Active Esters for Subsequent Spontaneous Coupling," In: "Peptides 1986," pp. 219-221 (1987)
- AT20 Rose, K. et al., "Preparation of Well-Defined Protein Conjugates Using Enzyme-Assisted Reverse Proteolysis," *Bioconjugate Chem.* Vol. 2:154-159 (1991)
- AR21 Rose, Keith, "Artificial Proteins Made by Parallel Assembly", *Innovation and Perspectives in Solid Phase Synthesis*, R. Epton (ed.), pp.21-28 (1994)
- AS21 Ryser et al., "Colon Carcinoma Immunoscinigraphy by Monoclonal Anti-CEA Antibody Labeled with Gallium-67-Aminooxyacetyldeferoxamine", *J. Nucl. Med.*, Vol. 33:1766-1773 (1992)
- AT21 Schnolzer, M. and Kent, S.B.H., "Constructing Proteins by Dovetailing Unprotected Synthetic Peptides: Backbone-Engineered HIV Protease", *Science*, Vol. 256:221-225 (1992)
- AR22 Shao, J. and Tam, J.P., "Unprotected Peptides as Building Blocks for the Synthesis of Peptide Dendrimer with Oime, Hydrazone, and Thiazolidine Linkages", *Journal of Amer Chem. Soc.*, Vol. 117 (14) :3893-3899 (1995)
- AS22 Tam et al., "Incorporation of T and B Epitopes of the Circumsporozoite Protein in a Chemically Defined Synthetic Vaccine Against Malaria", *J. Exp. Med.*, Vol. J.71:299-306 (1990)
- AT22 Tam, J. & Zavala, F. "Multiple Antigen Peptide: A Novel Approach to Increase Detection Sensitivity of Synthetic Peptides in Solid-Phase Immunoassays", *J. Immunol. Methods*, Vol. 124:52-61 (1989)
- AR23 Tam, J.P. et al., "Chemoselective Approaches to the Preparation of Peptide Dendrimers and Branched Artificial Proteins Using Unprotected Peptides as Building Blocks," *Biomed. Peptides, Prot. Nucl. Acids*, Vol. 1:123-132 (1995)
- AS23 Tam, J.P., "Synthetic Peptide Vaccine Design: Synthesis and Properties of a High-Density Multiple Antigenic Peptide System", *Proc. Natl. Acad. Sci.*, Vol. 85:5409-5413 (1988)
- AT23 Tanaka, Y. et al., "Synthesis and Stabilization of Amino and Carboxyl Terminal Constrained Collagenous Peptides," *J. Peptide Res.* Vol. 51:413-419 (1998)

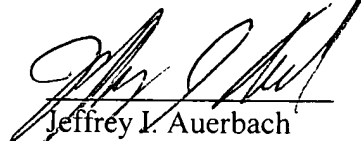
- AR24 Tomalia et al., "Starburst Dendrimers: Molecular-Level Control of Size, Shape, Surface Chemistry, Topology, and Flexibility from Atoms to Macroscopic Matter", Angew. Chem. Int.. Ed. Engl., Vol. 29:138-175 (1990)
- AS24 Trost, Barry M., "Reduction of C=N to CHNH by Metal Hydrides", Comprehensive Organic Synthesis, Vol. 8:60-78 (1991)
- AT24 Tuchscherer et al., "Protein De Novo Design: Condensation of Unprotected Peptide Blocks to Topological Templates via Selective Oxime Bond Formation", 13th American Peptide Symposium. Edmonton. Canada. Abst., p.976 (June 1993)
- AR25 Tuchscherer, G., "Template Assembled Synthetic Proteins: Condensation of a Multifunctional Peptide to a Topological Template via Chemoselective Ligation", Tetrahedron Letters, Vol. 34 (2) :8419-8422 (1993)
- AS25 Vilaseca et al., "Synthesis and Use of a Defined Oligomer for Targeted Drug Therapy", Peptides, C.H. Schneider & A.N. Eberle (eds .) ESCOM Science Publishers B.V., Geneva. Switzerland, pp.819-820 (1993)
- AT25 Webb, et al., "Synthesis of 1-(Aminooxy)-4-[3-Nitro-2-Pyridyl] Dithio] Butane and 1-(Aminooxy)-4-[3-Nitro-2-Pyridyl] Dithio] But-2-ene, Novel Heterobifunctional Cross-Linking Reagents," Bioconjugate Chem., Vol. 1:96-99 (1990)
- AR26 Werlen, R.C. et al., "Site-Specific Immunoconjugates, " Tumor Targeting Vol. 1:251-258 (1995)
- AS26 Werlen, R.C., "Preparation Of A Trivalent Antigen-Binding Construct Using Poly oxime Chemistry: Improved Distribution And Potential For Therapeutic Application," Canc. Res. Vol. 56:809-815 (1996)
- AT26 Williams, R.E., "Monitoring Multiple Antigen Peptide (MAP) Syntheses and Peptide Reorientation on a new MAP Core," Peptides, C.H. Schneider & A.N. Eberle (eds.) ESCOM Science Publishers B.V. Canada, pp. 911-912 (1993)

Applicants respectfully request that the documents listed on the accompanying Form PTO 1449 be considered and made of record in the present application. Applicants further request that the Examiner initial and return a copy of the enclosed PTO-1449, and to indicate in the official file wrapper of this patent application that the documents have been considered.

While the listed references are considered relevant to the prosecution of the present application, it is submitted that the references, either alone or in combination, do not detract from the patentability of the claimed invention.

Respectfully Submitted,

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PTO 1449				Page 1 of 7			
INFORMATION DISCLOSURE STATEMENT				Atty Dkt: 03504-244-CON		Serial No. To be Assigned	
Title: Polyoxime Compounds and Their Preparation				Applicant: OFFORD, Robin E. et al.			
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U.S. PATENT DOCUMENTS							
Examiner's Initial		Patent Number	Date (mm/dd/yyyy)	Name	Class	Sub- Class	Filing Date (mm/dd/yyyy)
	AA1	4,444,744	4/24/84	Goldenberg	424	1.1	9/3/82
	AB1	4,507,466	3/26/85	Tomalia et al.	528	332	1/7 /83
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	AE1	4,659,839	4/21/87	Nicolotti	548	546	10/10/84
FOREIGN PATENT DOCUMENTS							
		Document Number	Date (mm/dd/yyyy)	Country	Class	Sub- Class	Translation Yes/No
	AL1	EP 131 361	1/16/85	European Patent Appln.	C07K	17/08	No
	AM1	EP 243 929	11/4/87	European Patent Appln.	C07K	15/00	No
	AN1	EP 498 771	8/12/92	European Patent Appln.	A61K	49/02	No
OTHERS, including Author, Title, Date, Pertinent Pages, etc.							
	AR1	Altmann, K.H. & Mutter, M., "A General Strategy for the De Novo Design of Proteins-Template Assembled Synthetic Proteins", Int. J. Biochem., Vol. 22:947-956 (1990)					
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	AA2	4,678,667	7/7/87	Meares et al.	424	85	7/2/85
	AB2	4,707,352	11/17/87	Stavrianopoulos	424	1.1	1/3/0/84
	AC2	4,857,599	8/15/89	Tomalia et al.	525	259	2/8/88
	AD2	4,861,581	8/29/89	Epstein et al.	424	1.1	12/5/86
	AE2	4,865,835	9/12/89	Begent	424	1.1	5/27/86
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	AL2	EP 525 992	2/3/93	European Patent Appln.	A61K	47/48	No
	AM2	WO 85/05638	12/1985	WIPO	C12Q	1/00	No
	AN2	WO 88/03414	5/19/88	WIPO	A61L	2/08	No
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	AA3	4,918,164	4/17/90	Hellstrom	530	387	11/4/87
	AB3	5,011,676	4/30/91	Thakur	424	1.1	3/27/90
	AC3	5,084,266	1/28/92	McKenzie	424	9	2/2/89
	AD3	5,087,616	2/11/92	Myers	514	21	8/6/87
	AE3	6,001,364	12/14/99	Rose et al.	424	193.1	8/31/93
FOREIGN PATENT DOCUMENTS							
		Document Number	Date (mm/dd/yyyy)	Country	Class	Sub-Class	Translation Yes/No
	AL3	WO 90/02135	3/8/90	WIPO	C07K	3/08	No
	AM3	WO 91/13097	9/5/91	WIPO	C07K	17/00	No
	AN3	WO 92/05802	4/92	WIPO	A61K	39/44	No
OTHERS, including Author, Title, Date, Pertinent Pages, etc.							
	AS8	Geysen, H.M., and Mason, T.J., "Screening Chemically Synthesized Peptide Libraries for Biologically-Relevant Molecules", Bioorganic & Med. Chem. Lett., Vol. 3:397-404 (1993)					
	AT8	Hahn, K.W. et al. "Design and Synthesis of a Peptide Having Chymotrypsin-Like Esterase Activity?" Science 248:1544-1547 (1990)					
	AR9	Hermanson, G.T. "Bioconjugate Techniques," Academic Press, Inc., San Diego, CA pp. 147- 148 (1995)					
	AS9	Hobbs et al., "Identification of a Lymphocyte-Activating Pentapeptide Sequence in the Fc Region of Human. IgG11", J. Immunol., Vol. 138:2581-2586 (1987)					
	AT9	Houghton, R.A. et al., "The Use Of Synthetic Peptide Combinatorial Libraries For The Determination Of Peptide Ligands In Radio-Receptor Assays: Opioid Peptides," Bioorgan. Med. Chem. Lett. Vol. 3:405-412 (1993)					
	AR10	Houghton et al., "Development of new Antimicrobial Agents Using a Synthetic Peptide Combinatorial Library Involving More Than 34 Million Hexamers", Innovation and Perspectives in Solid Phase Synthesis. R. Epton (ed.) Intercept Limited. Andover, pp. 237-239 (1992)					
	AS10	Houghton et al., "Generation and use of Synthetic Peptide Combinatorial. Libraries for Basic Research and Drug Discovery", Nature, Vol. 354:84-86 (1991)					
	AT10	Jackson, D.C. & Brown, L.E., "A synthetic Peptide of Influenza Virus Hemagglutinin as a Model Antigen\and Immunogen", Peptide Research, Vol. 4:114-124 (1991)					
	AR11	Jung et al., "Modern Methods in Multiple Peptide Synthesis and Multiple Peptide Analysis", Solid Phase Synthesis R. Epton (ed). Intercept. Andover. UK, pp. 227-235 (1992)					
	AS11	Kaumaya et al, "Template Vaccine Strategy Bypasses Haplotype-Restricted Immune Responses", <u>Peptides</u> . C.H. Schneider & A.N. Eberle (eds.) ESCOM Science" Publishers B.V., Columbus. OH, pp. 139-141 (1993)					
	AT11	King et al. "Preparation of Protein Conjugates via Intermolecular Hydrazone Linkage", Biochemistry, Vol. 25:5774-5779 (1986)					
	AR12	Kneko et al., "New Hydrazone Derivatives of Adriamycin and Their Immunoconjugates-a Correlation Between Acid Stability and Cytotoxicity", Biocong. Chem., Vol. 2:133-141 (1991)					
Examiner:				Date Considered			
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	AA4	6,174,530	1/16/01	Rose et al.	424	193.1	8/31/93
	AB4	6,217,873	4/17/01	Rose et al.	424	193.1	5/5/94
FOREIGN PATENT DOCUMENTS							
		Document Number	Date (mm/dd/yyyy)	Country	Class	Sub- Class	Translation Yes/No
	AL4	WO 94/25071	11/10/94	WIPO	A61K	47/48	No
OTHERS, including Author, Title, Date, Pertinent Pages, etc.							
	AS12	Kurth et al., "Site-Specific Conjugation of a Radioiodinated Phenethylamine Derivative to a Monoclonal Antibody Results in Increased Radioactivity Localization in Tumor", J. Med. Chem., Vol. 36:1255-1261 (1993)					
	AT12	Marsden and Subak-Sharpe, "Preparation of Branched Peptides in Assays for Antibodies", Chem. Abs., Vol. 118:234487w (1993)					
	AR13	Matsumoto, H. et al., "Optimum Cross-linking Spacer Length of Dimeric Neurokinin B Analogs for Interaction with NK-1 tachykinin Receptors," Bull. Chem. Soc. Jpn. Vol. 66:196-204 (1993)					
	AS13	Moore, J.S., "Carborod Molecular Scaffolding", Nature, Vol. 361:118-119 (1993)					
	AT13	Mueller, et. al., "Antibody Conjugates with Morpholinodoxorubicin and Acid- Cleavable Linkers", Bioconjugate Chem., Vol. 1:325-330 (1990)					
	AR14	Murphy, A.M. et al., "Automated Synthesis of Peptide C-Terminal Aldehydes", J. Amer. Chem. Soc., Vol. 114:3156-3157 (1992)					
	AS14	Mutter et al., "Redesigning Peptide Structures: Side-Chain Assemblage on Topological Templates", Peptides 1992, C.H. Schneider & A.N. Eberle (eds.) ESCOM Science Publishers B.V., The Netherlands, pp.87-88 (1993)					
	AT14	Mutter et al., "The Construction of New Proteins: V.A. Template-Assembled Synthetic Protein (TASP) Containing Both a 4-Helix Bundle and -Barrel-like Structure", Proteins: Structure. Function & Genetics, Vol.5:13-21 (1989)					
	AR15	Nencioni et al, "In Vivo Immunostimulating Activity of the 163-171 Peptide of Human IL-1", J. Immunol., Vol. 139:800-804 (1987)					
	AS15	Nyanguile, et al., "Synthesis of Antiparallel 4a-helix Bundle TASP by Chemoselective Ligation, Letters in Peptide Science, Vol. 1:9-16 (1994)					
	AT15	Offord, R. E. "Chemical Approaches to Protein Engineering", Protein Eng.: A Practical Approach. Rees, A.R. et al., eds., Oxford Press, pp. 235-251 - (1992)					
	AR16	Offord, R. E. et al., "Press-Stud Protein Conjugates," In: "Proteins of the Biological Fluids, Peters, H. (ed.) pp. 35-38 (1986)					
	AS16	Offord, R. E., "Chemical Approaches to Protein Engineering", Protein Design and the Dev. of New Therapeutics and Vaccines, J.B. Hoof & G. Poste (eds.), The British Library, Plenum, New York, pp.253-282 (1990)					
Examiner:				Date Considered			
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OTHERS, including Author, Title, Date, Pertinent Pages, etc.							
	AT16	Offord, R.E. et al., "Press-Stud Protein Conjugates," In: "Peptides 1986," pp. 279-281 (1987)					
	AR17	Pochon et al., "A Novel Derivative of the Chelon Desferriozamine for Site- Specific Conjugation to Antibodies", Int. J. Cancer, Vol. 43:1188-1194 (1989)					
	AS17	Posnett et al., "A Novel Method for Producing Anti-Peptide Antibodies: production of Site-Specific Antibodies to the T. Cell Antigen Receptor - Chain", The Journal of Biological Chem., Vol. 263(4) :1719-1725 (1988)					
	AT17	Rana et al., "Synthesis of A Metal-Ligating Amino Acid Suitable for Solid Phase Assembly of Peptides", Tetrahedron Lett., Vol. 33:4521-4524 (1992)					
	AR18	Reines, S.A. and Cantor, C.R., "New Fluorescent Hydrazide Reagents for the Oxidized 3' -terminus of RNA", Nucleic Acids Res., Vol. 1:767-786 (1984)					
	AS18	Roberts, et al., "Using Starburst Dendrimers as Linker Molecules to Radiolabel Antibodies", Bioconjugate Chem., Vol. 1(S) :305-308 (1990)					
	AT18	Robey, F.A. and Fields, R.L., "Automated Synthesis of N'Bromoacetyl- Modified Peptides for the Preparation of Synthetic Peptide Polymers, Peptide-Protein Conjugates, and Cyclic Peptides", Analytical Biochemistry, Vol. 177:373-377 (1989)					
	AR19	Rose et al., "Attachment of Linker Groups to Carboxyl Termini Using Enzyme- Assisted Reverse Proteolysis", Peptides 1988. G. Jung & E. Bayer (eds .) Walter de Gruyter. Berlin-New York, pp.274-276 (1989)					
	AS19	Rose et al., "Site-Specific Modification of Natural and Biosynthetic Polypeptides by Reverse Proteolysis", Innovation and Perspectives in Solid Phase Synthesis. R. Epton (ed.) Intercept., Andover, pp. 129-134 (1992)					
	AT19	Rose "Facile Synthesis of Artificial Proteins", J. Amer. Chem. Soc., Vol. 116:30-33 (1994)					
	AR20	Rose, K. et al., "A Synthetic Peptide-Based Polyoxime Vaccine Construct Of High Purity And Activity," Molec. Immunol. Vol. 32:1031-1037 (1995)					
	AS20	Rose, K. et al., "Enzyme-Assisted Semisynthesis of Polypeptide Active Esters for Subsequent Spontaneous Coupling," In: "Peptides 1986," pp. 219-221 (1987)					
	AT20	Rose, K. et al., "Preparation of Well-Defined Protein Conjugates Using Enzyme-Assisted Reverse Proteolysis," Bioconjugate Chem. Vol. 2:154-159 (1991)					
	AR21	Rose, Keith, "Artificial Proteins Made by Parallel Assembly", Innovation and Perspectives in Solid Phase Synthesis, R. Epton (ed.), pp.21-28 (1994)					
Examiner:				Date Considered			
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OTHERS, including Author, Title, Date, Pertinent Pages, etc.							
	AS21	Ryser et al., "Colon Carcinoma Immunoscintigraphy by Monoclonal Anti-CEA Antibody Labeled with Gallium-67-Aminooxyacetyldeferroxamine", J. Nucl. Med., Vol. 33:1766-1773 (1992)					
	AT21	Schnolzer, M. and Kent, S.B.H., "Constructing Proteins by Dovetailing Unprotected Synthetic Peptides: Backbone-Engineered HIV Protease", Science, Vol. 256:221-225 (1992)					
	AR22	Shao, J. and Tam, J.P., "Unprotected Peptides as Building Blocks for the Synthesis of Peptide Dendrimer with Oime, Hydrazone, and Thiazolidine Linkages", Journal of Amer Chem. Soc., Vol. 117 (14) :3893-3899 (1995)					
	AS22	Tam et al., "Incorporation of T and B Epitopes of the Circumsporozoite Protein in a Chemically Defined Synthetic Vaccine Against Malaria", J. Exp. Med., Vol. J.71:299-306 (1990)					
	AT22	Tam, J. & Zavala, F. "Multiple Antigen Peptide: A Novel Approach to Increase Detection Sensitivity of Synthetic Peptides in Solid-Phase Immunoassays", J. Immunol. Methods, Vol. 124:52-61 (1989)					
	AR23	Tam, J.P. et al., "Chemoselective Approaches to the Preparation of Peptide Dendrimers and Branched Artificial Proteins Using Unprotected Peptides as Building Blocks", Biomed. Peptides, Prot. Nucl. Acids, Vol. 1:123-132 (1995)					
	AS23	Tam, J.P., "Synthetic Peptide Vaccine Design: Synthesis and Properties of a High-Density Multiple Antigenic Peptide System", Proc. Natl. Acad. Sci., Vol. 85:5409-5413 (1988)					
	AT23	Tanaka, Y. et al., "Synthesis and Stabilization of Amino and Carboxyl Terminal Constrained Collagenous Peptides", J. Peptide Res. Vol. 51:413-419 (1998)					
	AR24	Tomalia et al., "Starburst Dendrimers: Molecular-Level Control of Size, Shape, Surface Chemistry, Topology, and Flexibility from Atoms to Macroscopic Matter", Angew. Chem. Int.. Ed. Engl., Vol. 29:138-175 (1990)					
	AS24	Trost, Barry M., "Reduction of C=N to CHNH by Metal Hydrides", Comprehensive Organic Synthesis, Vol. 8:60-78 (1991)					
	AT24	Tuchscherer et al., "Protein De Novo Design: Condensation of Unprotected Peptide Blocks to Topological Templates via Selective Oxime Bond Formation", 13th American Peptide Symposium. Edmonton. Canada. Abst., p.976 (June 1993)					
	AR25	Tuchscherer, G., "Template Assembled Synthetic Proteins: Condensation of a Multifunctional Peptide to a Topological Template via Chemoselective Ligation", Tetrahedron Letters, Vol. 34 (2) :8419-8422 (1993)					
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		Document Number	Date (mm/dd/yyyy)	Country	Class	Sub- Class	Translation
OTHERS, including Author, Title, Date, Pertinent Pages, etc.							
	AS25		Vilaseca et al., "Synthesis and Use of a Defined Oligomer for Targeted Drug Therapy", Peptides, C.H. Schneider & A.N. Eberle (eds .) ESCOM Science Publishers B.V., Geneva. Switzerland, pp.819-820 (1993)				
	AT25		Webb, et al., "Synthesis of 1-(Aminooxy)-4[3-Nitro-2-Pyridyl] Dithio] Butane and 1- (Aminooxy)-4-[3-Nitro-2-Pyridyl] Dithio] But-2-ene, Novel Heterobifunctional Cross-Linking Reagents," Bioconjugate Chem., Vol. 1:96-99 (1990)				
	AR26		Werlen, R.C. et al., "Site-Specific Immunoconjugates, " Tumor Targeting Vol. 1:251-258 (1995)				
	AS26		Werlen, R.C., "Preparation Of A Trivalent Antigen-Binding Construct Using Poly oxime Chemistry: Improved Distribution And Potential For Therapeutic Application," Canc. Res. Vol. 56:809-815 (1996)				
	AT26		Williams, R.E., "Monitoring Multiple Antigen Peptide (MAP) Syntheses and Peptide Reorientation on a new MAP Core," Peptides, C.H. Schneider & A.N. Eberle (eds.) ESCOM Science Publishers B.V. Canada, pp. 911-912 (1993)				
Examiner:				Date Considered			
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